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The Effect of Service-Learning on Interdisciplinary Learning and Curriculum Reinforcement, and Its Application to Public School Environments

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Abstract

This qualitative research project focused on the impact of service-learning experiences on an interdisciplinary college freshman course. The research included the impact on academic learning, the application of concepts into a public school educational environment, and the perceptions regarding the contribution to the school being served. Participants were college freshmen students who received pre and post surveys and participated in both verbal and written reflections. Analysis of the survey responses and reflection data indicated the service-learning experiences enhanced student learning. Analysis of data also indicated a disconnect between recognized community needs and college student involvement toward fulfilling the needs.

Key Words: service-learning, higher education, curriculum reinforcement, curriculum application, community engagement

Introduction

"Loving your country must mean accepting your responsibility to do your part to change it. If you do, your life will be richer, and our country stronger." —President Obama (2008)

Service-learning research regularly studies the impact of experience on the students who perform the service, as well as those who receive the service. The research conducted for this study assessed the impact of service-learning on the students enrolled in an interdisciplinary, college freshman course. This multicultural literature course fully coordinated the college curriculum with the elementary school curriculum established by the community partner.

This research was conducted at a private liberal arts college that incorporates service-learning into some of its courses. The course for this project was a part of a course block in which the students were concurrently enrolled in four courses. The multicultural literature course was designed to promote the consideration of education as a potential major part of the service-learning experience. All students taking this course performed service at a high-need, public elementary school. Research data for the study was collected through surveys, student reflections, and course evaluations.

This qualitative research project focused on one overarching question—how does the service-learning experience enhance the learning process of college freshmen enrolled in interdisciplinary courses? Three sub-questions are embedded in this main question:

- 1.a) Would service-learning experiences strengthen academic learning?

- 1.b) Would college students understand how the concepts learned in the college class apply to public elementary school educational environments?
- 1.c) Would college students believe that they had made a significant contribution to the elementary school?

Review of the Literature

Creating a connection between education and experience is not new. In 1916, John Dewey stated "education consists primarily in transmission through communication. Communication is a process of sharing experience till it becomes a common possession. It modifies the disposition of both the parties who partake in it." (page 9). Dewey believed that learning occurred through social interaction that is experienced in a realistic setting. Dewey's belief is supported by the Michigan Learn and Serve Study (RMC Research Corporation, 2003), which indicated that the two aspects of service-learning that were most closely associated with positive results were the linkage of curriculum with direct contact and open communication of those being served.

Liberal arts colleges strive to develop students who are well rounded, and their students have typically been involved with projects involving community engagement and service-learning opportunities to a greater degree than research universities (Campus Compact, 2007). Some universities are also attempting to embrace the goal of engaging students within the community (Closson & Nelson, 2009). The intent of these colleges and universities is to move their students from passively receiving knowledge gained through college coursework to actively applying their knowledge in real-world environments.

Service-Learning Standards

The study design began with a review of service-learning standards. The Alliance for Service-learning in Education Reform (ASLER) Standards for Quality for School Based and Community Based Service-learning (1995) and the standards for service-learning in the state where the study occurred were reviewed and correlated. The chart below identifies the standards related to this study and their correlation to the research questions.

Table 1. Correlation of ASLER Standards to State Standards

Research Question	ASLER Standard	State Standard
1a	1. The objective of the service-learning must be clearly stated, developmentally and academically appropriate, and understood by college students. The objective of the experience must also be understood by the community partner so that both college and community partner have aligned goals. Service-learning must be an integral course element; without the service-learning experience the course would lack the application of knowledge.	Service-learning is linked to the curriculum. This includes the application and transfer of knowledge and skills from one environment to another.
1b	2. A connection must be established between college course content and real-world experience. Students must feel that they are performing	Community partnerships meet an identified need. There is ongoing communication between

	meaningful work in the community. Students should develop increased self-awareness, self-image, and self-reliance as a result of the experience.	all participants. – and – The duration of the service-learning is adequate to meet the goal established by the participants.
1a	3. Service-learning participants must be fully aware of their role. They must be prepared for the experience both in background concerning the community partner, as well as a readiness to implement service-learning activities in the community. Additionally, the students must be prepared for the cultural mores of the community partner including appropriate attire, attitude, and a willingness to participate. Reflection on role and preparation is a critical component. This leads to college students' self-discovery of strengths and weaknesses, as well as personal growth.	Reflection is an essential element of the service-learning.
1c	4. There should be a culminating event that allows the college students to recognize their impact on the community partner. The students must feel as if their contribution is valued.	The service-learning experience should be meaningful to participants and lead to recognizable outcomes.

The ASLER and state standards provided the foundation for the specific service-learning objectives, survey item design, and the methodology described later in this paper. After establishing the correlation, a review of the literature was also completed with emphasis placed on the impact of service-learning on student academic, social, and personal growth.

Impact on Students

Service-learning can have a positive influence on a student's personal and social development. College is a time when students examine the ethics and values instilled by parents and friends and develop a personal value system aligned with their self image (Chickering & Reisser, 1993). The integration of service-learning experiences early in the college career has been shown to further student development in these areas (Eyler, Giles, Stenson, & Gray, 2001). Through service-learning experiences, students develop their personal identity, interpersonal skills, leadership tendencies, and communication abilities (Vogelgesang & Astin, 2000). Shaffer's research (1993) showed that participation in service-learning increased self-esteem and self-efficacy.

Research by Leming (1998) indicated that students who were involved in service-learning activities ranked responsibility as an important personality characteristic and developed a higher level of commitment toward their school. This level of student commitment and the college's collaborative learning experiences are important factors in the retention of college students through graduation (Seidman, 2005).

Students also gain a deeper understanding of social issues. Student perceptions of social problems are often not aligned with reality. Kohlberg (1971) stated that experiences out of the classroom force students to confront moral issues. Service-learning allows students to formulate new more realistic perspectives of moral and community issues (Smith-Pariola & Goke-Pariola, 2006). The HUD Office of University Partnerships (U.S. Department of Housing, 2000) states, "Educators and students learn from the practical application of ideas

and, more important, from residents who have an intimate, real-life understanding of neighborhood challenges.” (page 3) Some research has indicated, however, that students involved in service-learning coursework do not demonstrate a greater increase in moral reasoning than students in similar courses without a service-learning component (Bernacki & Jaeger, 2008).

This involvement may lead to additional service-learning or volunteering experiences. Ehrlich (2000) states, “Dewey declared that Americans, as citizens, must be engaged in both thought and action. He argued that education is the key” (page 249) The Corporation for National and Community Service (Dote, Cramer, Dietz, & Grimm, 2006) reports that between 2002 and 2005, college student volunteering increased by 20% (double the rate of adult volunteers for the same time period). Steve Goldsmith (2006), the Chairman of the Board of the corporation stated, “This rise in college student volunteering and the growing campus support for service are hopeful signs for the future of civic involvement in America. Higher education is a powerful engine of civic engagement.” Gottlieb & Robinson (2002) support this view stating, “One of the roles of higher education should be to find ways to renew and strengthen the commitment of students to civic life.” (page 5) Some research, however, has indicated that while short-term student community involvement has increased, extended long-term commitments of social involvement has not (Marks & Jones, 2004).

Service-learning can have a positive influence on a student’s academic performance. College students frequently learn theoretical underpinnings with no clear application. Consequently, they often have their first community experience during senior internships or practicum experiences. Service-learning can eliminate the disconnect between the college experience and the real-world environment as students have the opportunity to apply information gained in the college classroom. In a study funded through Smartworks Incorporated, Stephens (1995) showed that service-learning experiences that connect classroom learning with practical experiences increase mastery of topics. Research has also indicated that career exploration knowledge increases (Billig & Conrad, 1997).

Service-learning experiences also increase academic interest and improve problem solving skills (Stephens, 1995). Weiler, LaGoy, Crane, and Rovner (1998) indicated that the increased interest had significantly increased the students’ sense of educational accomplishment and competence. Students were also more likely to think school was stimulating, interesting, and fun when learning included practical knowledge and skills (Billig & Meyer, 2002). These characteristics are all critical for collegiate success.

Methodology

Project Objective

The development for this study began with determining that a documented need existed in the community. This need was identified by the community participant rather than an outside source. During an in-depth review of schools within the local public school system, an elementary school emerged as possessing a high need. This need was identified in school publications and in the 2008–2009 school goal which was “to assist all students to meet proficiency by 2014 and to assure that each child is given the maximum opportunity to achieve at high levels.”

During conversations with the community coordinator at the elementary school (personal communications, 2008), an alignment of service to need was identified. Based on this alignment, a developmentally and intellectually appropriate service-learning experience was developed that would be relevant and meaningful, and would improve the academic experience of both the college and elementary students. Like most service-learning projects (Campus Compact, 2008), this experience focused on reading/writing and multicultural understanding.

All college freshmen who participated in the project were enrolled in four core classes at a private liberal arts college:

- Culture, Power, and Society: The United States, Florida and the Afro-Native Experience 1700–1900
- Multicultural Literature
- Educational Psychology
- School and Society

The curriculum in each of the courses focused on minorities in the southern United States, and each course was designed to complement the discussions occurring in the other classes. The approach was interdisciplinary. For example, when the students were studying the Reconstruction Era that occurred in the southern United States, the students were also reading a children’s or adolescent piece of literature (from a multitude of genres including folklore, historical fiction, realistic fiction, biography, dramatic performance, and fantasy) set in that time period, and studying the role of schools in the advancement of society during the same time period. The students were able to connect the written records and primary sources of the historical events with the literary interpretation of the past. Instructional techniques for implementing the literature in an elementary classroom were discussed.

Because service-learning is considered an integral element of the freshman college experience and because of past experiences with teaching the Multicultural Literature course, this course was chosen to be the core service-learning component. The objective of the service-learning experience was clearly outlined in the course syllabus and fully explained to the students at the start of the college semester. Rather than a course add-on, this course requirement allowed students to implement what was discussed in the college classroom weekly. The students used the literature, applied the instructional techniques, and met state and local curriculum mandates while working with elementary students. For example, while students in the elementary school were studying blends (a state curriculum

standard for the grade level), the college students were studying literature about cultures in the south and then using this literature to implement instruction to enrich and expand elementary student knowledge about blends.

Community Partnership

The college conducting this research has been proactively working to become a leader in higher education service-learning experiences. The college's Community Engagement Office is focused on providing assistance with establishing partnerships and providing service-learning training to interested faculty.

With the help of the college's Community Engagement Office, an elementary school was selected as the site of this study. The community partner school was founded in 1947 and is located in a downtown metropolitan area. The school is 55% African-American, 24% Caucasian, 13% Hispanic, 3% Asian, and 5% Other. English language learners (ELL) comprise 10% of the student population. Seventy-seven percent of the students receive a free or reduced-price lunch. The demographics of the second grade students who participated in this study mirrored those of the elementary school.

In 2007–2008, the school did not satisfy the criteria of the Federal No Child Left Behind Act. This was due to the following factors: 1) students with disabilities needed continued improvement in reading and 2) both African-American and students with disabilities needed improvement in mathematics.

Service-learning Experience: Preparation and Reflection

The community partner school was made aware that the college students participating in the project were predominately college freshman and lacked intensive formal training in instructional methodology or pedagogy. The community partner was willing to provide the experience under the direction of a certified elementary teacher and the researcher for this project (also a certified teacher) who would provide feedback and adjust instruction as necessary.

As part of the service-learning preparation, demographic information regarding the elementary school was shared with the college students. The selected second grade class had 18 students. Many of the college students indicated that this was their first experience working within a high-need, culturally diverse elementary school.

After determining that the college students could enhance the academic curriculum being implemented in the classroom, activities were designed so that the service-learning would meet current community partner instructional needs, particularly in reading and writing. Feedback from the school was obtained after each experience. Discussions with the college students were held to determine their perspectives of the needs of the community partner and to elicit their input for future activities to be implemented. Improvements were made to the planned activities to accommodate the needs of the elementary school and incorporate suggestions made in the verbal and written reflections from the college students.

Throughout the experience, both the researcher and the elementary classroom teacher acted as observers and adjusted the program or approach when necessary. For example, when one of the college students with limited classroom management experience was observed valiantly trying to manage an attention-deficit hyperactivity disorder (ADHD) student, an adjustment of the college student assignment was made. The researcher also

noted that at several times during the service-learning experience, college students came to ask for suggestions on how to handle situations (particularly in the area of classroom management). In response to these inquiries, the topics were addressed in the next college class so that the rest of the class would benefit as well.

At the midpoint of the semester, the college students were given the option of continuing or terminating the experience. The students indicated their full support for the activities being implemented in the community setting by voting unanimously to continue. Learning, for both the college students and the elementary student, was ongoing throughout the service-learning experience.

Assessment

Based on the Alliance for Service-learning in Education Reform (ASLER) (1995) standards and the desire to enrich the collegiate experience of incoming freshmen, a pre and post survey was developed to evaluate the project. The survey also reflected the guidelines established in the Florida Department of Education "Standards for Service-learning in Florida: A Guide for Creating and Sustaining Quality Practice" (2009). These guidelines included links to the curriculum, providing meaningful service, providing participants a voice in decision making, reflection, mutually beneficial partnerships, diversity, progress monitoring, and duration/intensity.

Survey questions measured how effectively the four ASLER standards stated in Table 1 (page 2) were met. The first ASLER standard focused on the college students' belief that the service-learning objective was an integral element that enhanced their learning experience in the interdisciplinary course block. This standard was measured by the students' ability to meet three objectives:

- College students would be able to identify problems and needs being faced in community schools, alter their attitude concerning these issues, and realize that changes in schools may occur slowly.
- College students would be able to recognize that elementary students have many different abilities and that a lot can be learned from working with them and with professional educators in the field.
- College students would be able to recognize their attitude regarding, and likelihood of, future community involvement and to identify the goals of service-learning.

The second ASLER standard focused on establishing a connection between college coursework and real-world experience. This standard also focused on students believing they have performed meaningful work with increased self awareness, enhanced skills, and personal reliance. Survey items focused particularly on addressing if students would understand how the concepts learned in the college class applied to public school educational environments.

The third ASLER standard addressed roles, preparation, readiness, cultural mores, and the reflective identification of individual strengths and weaknesses. The focus of this area was on the role of the teacher that the students assumed, the preparation needed to fulfill that role, the knowledge gained regarding cultural differences, and the student's final self-analysis. These were studied to identify the impact of on academic learning.

The final ASLER standard addressed if participants felt their contribution was appreciated and valued. Survey items to address the study question "Would students believe that they had made a significant contribution to the school?" are highlighted in the discussion section of the paper.

The ASLER standard also recommended that the service-learning experience end with a culminating event. During this study, a celebratory event was held at the close of the experience and was not assessed by the pre or post survey.

An approach was developed to provide both formative and summative evaluation data. Formative assessment was completed orally after each experience. The students reflected on the events of that day focusing on their strengths and weakness, as well as the strengths and weaknesses of the program. Although notes were taken, for the purposes of this study, these discussions were not recorded or tabulated because the sole purpose was for program improvement. Modifications to the service-learning experience were made based on this feedback (i.e., requests for additional time with the community partner). The college students were also asked to reflect on the experience in written format.

A summative pre and post survey was developed to assess the effectiveness of the service-learning experience. Students completed the pre-survey one day before their first experience and their post survey after the last experience.

Culmination

At the culmination of the service-learning experience, a celebration was held. The college students presented their elementary students with academically and developmentally appropriate literature. After the experience, the elementary students completed a survey. The survey was administered several days after the last classroom visit and consisted of four questions:

1. This is how I felt about the books the college student shared with me.
2. This is how I felt about the college student teaching me.
3. This is how I felt about the art and other activities that we did together.
4. This is how I feel about the college student coming back to work in my classroom some more.

The students responded by circling one of three faces: a frown (explained as "I didn't like it."), a straight face (explained as "It was okay."), and a smiling face (explained as "It was fantastic."). The students circled the face that indicated their response to each question. Responses were anonymous.

Results from the elementary students were extremely positive. There were no negative answers selected. Of the 12 students surveyed, all but one student selected the most positive rating. Student written comments included:

- "I had a great time. I hope you come back to our class."
- "I wished you stayed the whole year. I miss you."

- "I really liked all the stuff."
- "I had so much fun with you. I wish you would come back."

Based on the survey and the comments, the service-learning experience was positive for the elementary students.

Procedure

Fifteen freshman college students participated in this study as part of a multicultural literature course and were advised that enrollment in this course would lead to automatic enrollment in three other specific courses, creating a cohort group that would remain together for the first semester of the freshman year. Thirteen of the students were Caucasian, two were Hispanic. The students had not declared education as a major; approximately one-third had identified business as their potential major, another third economics, and the remainder undeclared.

The course focused on Hispanic, Black-American, and Native American children's and adolescent's literature set in the southern United States. The college students read a total of 17 books during the semester. Six of the books were identified (selection criteria included award winning or honor books) as appropriate for use in an elementary classroom. These included *Martina the Beautiful Cockroach* (Deedy, 2008), *Henry's Freedom Box* (Levine, 2007), *Jazzy Miz Mozetta* (Roberts, 2004), *Follow the Drinking Gourd* (Winter, 1988), *Bigmama's* (Crews, 1998), and *Free Baseball* (Corbett, 2008).

Each week in the college classroom, the college students read these books and discussed potential classroom use. For each book, a lesson plan was developed and discussed that integrated language arts, history, and art. For example, when reading *Henry's Freedom Box*, the students discussed slavery, mapping the states that allowed slavery versus those that did not. The students also designed a small wooden box. The elementary students then highlighted the important things they would put in the box if they were to leave their home permanently with only a few belongings (as Henry Brown did in the story). For many students at this particular elementary school, this was a reality; over 170 students receive services from the Coalition of the Homeless.

The lesson plan was implemented on a one-on-one basis: one college student to one elementary student. The pairing of students was random. The pair remained together throughout the service-learning experience, which occurred over a 3-month period. During each visit, the pair worked for 2 hours.

A survey was administered in a pre and post fashion. The pre-survey was administered before the first service-learning experience; the post at the conclusion of the semester. The mean value of the pre-survey responses was compared with the mean value of the post-survey responses. The pre and post mean values were analyzed to determine the relative change in attitudes toward service-learning and the college classroom experience. To allow additional input not measured on the surveys, the students also completed both verbal and written reflections on the experience.

A statistical analysis was performed on the pre- and post-survey responses. There were 24 pre- and post-survey question pairs. Each of these 24 items were organized by the research question that each addressed and the related ASLER standard. For each item, the mean difference, t-test value, and statistical significance were calculated. The data are summarized below in Table 2.

Table 2. Statistical Analysis of Pre- and Post-Survey Responses

Item #	Research Question	ASLER	Pre-Survey Question	Post-Survey Question	Mean Difference	T-Test	Significance Value
1	1.a	1	1	14	3.0705	-11.6829	0.0000
2	1.a	1	1	18	3.4551	-17.1740	0.0000
3	1.a	1	9	4	0.0556	-0.1744	0.8636
4	1.a	1	12	4	-0.4167	-3.5490	0.0020
5	1.a	1	13	9	1.1218	-3.6127	0.0015
6	1.a	1	19	18	0.2051	-0.6194	0.5418
7	1.a	1	20	3	-0.4444	-2.3475	0.0283
8	1.a	1	20	8	1.0256	-4.4507	0.0002
9	1.a	3	1	10	3.3397	-14.7420	0.0000
10	1.a	3	5	11	-0.1026	0.3401	0.7370
11	1.a	3	6	17	0.0449	-0.1687	0.8675
12	1.a	3	17	7	0.1282	-0.4423	0.6627
13	1.a	3	17	15	0.5128	-2.0704	0.0554
14	1.a	3	17	17	0.1282	-0.4423	0.6627
15	1.a	3	17	20	0.2821	-1.0643	0.3008
16	1.b	2	2	3	-0.0321	0.1131	0.9110
17	1.b	2	2	14	-0.2628	0.9056	0.3763
18	1.b	2	3	16	0.1538	-0.6552	0.5200
19	1.b	2	8	2	-0.2500	-0.0135	0.9894
20	1.b	2	10	1	0.0556	-1.0664	0.2976
21	1.b	2	14	16	0.4038	-1.5888	0.1293
22	1.c	4	7	5	0.5545	-2.4683	0.0247
23	1.c	4	7	6	-0.2500	-1.6727	0.1104
24	1.c	4	11	19	0.0556	-0.8251	0.4178

Those items that indicated a statistical significance are highlighted in bold in Table 2. As shown in the table, there were several items related to research questions 1a and 1c that indicated a statistical significance. Also, research question 1a addressed two ASLER standards, 1 and 3.

The most significant results are related to research question 1.a, which was focused on ASLER standard #1, which related to the student's assessment of the significance of the service-learning to the class readings and activities and the effect on strengthening academic learning. An analysis of the data and discussion are presented below.

Analysis

An analysis of data brings the study back to the original broad question: How does the service experience enhance the learning process in college-level service-learning courses? To determine a response, an analysis of each of the sub-questions was completed. Each sub-question is addressed below.

1.a) Would service-learning experiences strengthen academic learning?

This area focused on student perception regarding the impact of the service-learning experience on academic learning. Key to a positive impact on academic learning is the application of knowledge gained in the traditional academic setting in a community environment. This experience ties the academic knowledge to a real-world setting, which reinforces the knowledge gained in the classroom and strengthens the overall academic experience.

Specific Discussion

- A. The key aspect of this research was to assess if service-learning would strengthen academic learning in the interdisciplinary course block (ASLER 1). As shown in Table 2, ASLER standard 1 had the most responses that demonstrated statistical significance. Items 1 and 2 addressed the relevance of the class instruction to learning new skills and if the college students were influenced by watching professionals in a real-world setting. Both of these items were statistically significant. In written reflections, one participant noted, "Working with [elementary student name] catalyzed my interest, as I was able to visually perceive the effectiveness of multicultural literature for children."
- B. College students were asked in a pre/post survey if the service-learning experience fit with the Multicultural Literature course content and applied concepts to the real world (ASLER 1). Item 7 addressed this aspect. The statistical significance of the responses is marginal. However, this may be due to the small sample size of the study and will be explored further in subsequent studies. A written reflection in this area indicated that "Working with the [school name] students was definitely the highlight of this course....It was one of the most interesting experiences of the semester."
- C. Item 4 provides the response data for student attitudes toward public education (ASLER 1). This item is statistically significant and indicates a change in student attitude with an increased awareness of the problems facing schools.
- D. Written and personal reflection was an important element of the interdisciplinary project (ASLER 3). Item 9 asked students to identify if they planned to reflect on the experience (pre) versus if reflection occurred (post). The focus of the reflections was to assess personal strengths and weaknesses throughout the project. Data analysis indicated a high degree of reflection occurred.

Based on the data, students valued the service-learning experience and indicated that it strengthened their academic learning. The experience also increased their awareness of problems facing schools. The reflection that occurred during the project enhanced the level

of self-discovery of the college students through the identification of individual strengths and weaknesses.

1.b) Would students understand how the concepts learned in the college class apply to public school educational environments?

This area addresses the college student's beliefs regarding the application of newly acquired skills in a real-world setting through the service-learning experience. This research question is exclusively related to ASLER standard 2. The analysis of the survey data indicated no statistical significance in survey items 16 through 21.

Further Results

- A. Students were asked to assess the application of skills in a real-world setting. Although there were no statistically significant responses related to the application of skills in a real-world setting, student written reflections demonstrated a high degree of satisfaction with their ability to apply new skills. Comments include the following statements:
- "It helps ...[to] learn the steps needed to reach a child and how to understand what is going on in a child's head."
 - "One needs to know how a child reacts to certain lessons and what will promote their learning."
 - "The trips to [school name] were an amazing experience. They taught so many valuable lessons about the literature and its application in a real live classroom."
 - "Reading to the children really reinforced our lessons from class. It allows us to see the benefits of Multicultural Literature first hand."
 - "The readings at [school name]....really teaches the meaning of Multicultural Literature and its benefits to a child's education."
- B. Student reflections also indicated that was appropriate for the Multicultural Literature class to apply the course literature in an elementary school classroom:
- "[It] teaches college students how to interact with children and see hands-on the effect multicultural children's literature can have on younger students. Everything was laid out for us and organized so that we could go into the classroom with a plan and execute it easily."
 - "I didn't realize just how much short children's stories could relay such strong messages to children until I was reading the story *Henry's Freedom Box* who seemed to learn so much. When we discussed the book before reading she didn't seem to grasp the concept of what types of hardships and struggles slaves had faced. She thought the duties of slaves entailed serving dinner and many small simple tasks, but that they were actually treated well and had nice places to live. During reading and after it was amazing to me to see how much her view on the matter had changed. It was when Henry was taken from his family without even having a choice in the matter that I recall her being shocked and sympathetic towards Henry and what he had to do. She couldn't imagine not having her own freedom. [elementary student name]'s reaction to this story strongly affected my view on children's literature and how great of a utensil it is in teaching children."

- "I have a much higher regard of Multicultural Literature because it exposes children to cultures that they normally may not encounter and teaches them that diversity is safe and not to be afraid of it—through the stories told. Their purpose was unknown to me before [the service-learning experience]."
- "When [elementary student name] placed herself in another culture's shoes, and was able to understand and feel for that culture, the effectiveness of multicultural literature became increasingly apparent."
- "The literature was eye opening for both of us [the college student and the elementary student]."
- "The course has taught me not to judge a book by its cover."
- "One aspect of the course I really enjoyed was going to [school name]. The course is about children's multicultural literature and going to the school was a perfect fit."

Although this research question did not have any statistically significant survey responses, the student reflections indicated that they perceived value in the opportunity to apply their skills in a real-world setting.

1.c) Would students believe that they had made a significant contribution to the school?

In general, the service-learning experience increased the perception of being connected with the community and providing a valuable service to the school and community (ASLER Standard 4). Item 22 showed a marginal statistically significant result indicating that the students felt that they had an impact on the community partner and that their service was valued.

A related area is civic responsibility and the need for college students to be involved in service-learning projects. Stephens (1995) showed that students involved in service-learning show increased civic responsibility and service ethics. Stephens' research was not supported by the results of this study.

Further Results

- A. With respect to the value of the student service and the appreciation of that service, as noted above, there was a marginal statistically significant result. However, the student reflections indicated that they felt their participation and impact on the community was valuable. As indicated by Item 24 in Table 2, however, there was no indication that the experience led them to express an interest in future service-learning or civic responsibility.

As in previous studies in the field, the students felt they had an impact on the school (O'Bannon, 1999; Cairn, 1999) and had made a positive contribution to the community (Melchior, 1999). Student reflections were expressed in the following statements:

- "Providing the children with attention they desperately needed was very fulfilling—knowing we were really helping."

- "Reading and doing activities with the elementary students and seeing how they viewed the stories was a wonderful experience. Not only did I see the importance of multicultural literature but I also felt like I had made an impact on a student's life."
 - "Reading to them and helping them understand the books on another culture will hopefully increase their interest in the subject and promote the effects of multicultural literature....This helps the community"
 - "Teaching a child about another culture would hopefully shape their lives for the better; Helps broaden student's outlook on the world."
- B. The students expressed that the community partner welcomed the service-learning and that college students should help in the community. Student reflections indicated a perception that the service-learning was valuable and appreciated:
- "I always believe it is good to teach students around my age the benefits of helping in their community."
 - "The [school name] trips are enriching and rewarding and appreciated by the school."
 - "The visits help the community and enrich the lives of younger students."

However, the data indicates no statistical significance that they will actively seek such opportunities in the future.

The results for this research question indicated a single result that is marginally significant in the area of recognition and appreciation of the service-learning work performed.

Discussion

The data indicated several statistically significant areas. The results indicated that there was a significant correlation between service-learning and academic learning. The most significant results were related to the relevance of the service-learning to the interdisciplinary course block and the value of applying skills learned in the academic setting to a real-world setting. Data also supported the fact that students believed they were applying the information learned in the college classroom in a meaningful way. This reinforces the value of service-learning as a vehicle to apply and reinforce academic skills. The benefit of working with and observing professionals in the field was also perceived as beneficial as indicated by Item 2 in Table 2. This item exhibited the most significant result within the study. This indicates that not only did the service-learning experience reinforce academic learning, but the experience of working with professionals in the field provided knowledge that was not obtained through the college classroom.

Reflections indicated that students found service-learning to be rewarding. The college students expressed the opinion that the need at the elementary school was greater than anticipated and that the service-learning experience helped to fulfill this need. This is reflected in Item 4 in Table 2. College student reflections also expressed the belief that they received a higher degree of recognition and appreciation for their efforts than anticipated. This is reflected in Item 22 in Table 2.

Although the survey data indicated a statistically significant positive perception regarding the importance of working within the community, reflections indicated no significant change in the students' perceived likelihood that they would continue in service-learning projects. This warrants further research because the data from this study is contrary to Packer's (2009) research, which indicates that students would "seek out opportunities to become involved" post graduation.

In the study described in this paper, it appears that, while the students felt they had an important role within the community during service-learning, they would not continue unless directed through course requirements. Tyson et al. (2008) states that students often "commit to working longer than their course requirement to get the placement, but then do not follow through on that promise after they have met their minimum hours." This may be because the issues facing the elementary school are so far removed from the students' personal lives that they fail to make changes in their behavior (Hornsby, 2007). The gap that exists between recognition of community need or importance of community involvement and future involvement to fulfill that need should lead to further study.

The study results for research question 1.b, which addressed ASLER standard 2, provided no statistically significant results. Thus, although there was a general acknowledgement regarding the application of skills and the use of multicultural literature in the service-learning environment, the lack of statistically significant results appears to indicate that the students' perceptions of the importance of applying skills was not altered. This would seem to show that the perception that the service-learning experience reinforces the academic experience, but the application of the skills learned through the college classroom is not as significant.

Although the sample size of this study is limited, it serves as a pilot for additional studies in the future. Future studies will involve larger student samples with increased community involvement.

Implications for Practice

This study offers implications for additional settings. When college courses are designed to remain within the confines of the classroom, perceptions of social issues and community problems remain unaltered. Designing college coursework that involves service-learning allows students to apply information learned while realistically viewing social problems and fulfilling community needs.

In this study, student attitudes toward community schools were influenced. Students perceived an increase in their awareness of the complex problems facing schools today. When planning courses that include service-learning, it is critical to incorporate activities that challenge preexisting perceptions. The challenge is to create service-learning experiences that directly impact the college students' lives to such a degree that they are willing to move beyond course requirements and continue working within the community. This may be achieved by requiring reflection that is guided by writing prompts that cause an increase in self-analysis, question existing paradigms, and challenge individual viewpoints.

Before this shift can be done, prior knowledge must be created so the college students can realistically internalize the community issue. For example, although a college student may

believe they understand the issue of educating homeless children, until they explore the issue by interviewing teachers who are actively doing this work or visiting the Coalition of the Homeless, their perception may be incorrect. Professors integrating service-learning into coursework must plan time for discussion after the experience to allow students time to examine their feelings and perceptions.

Based on the above, implications for application in other settings include:

1. Challenge pre-existing student perceptions of the problems facing the community member. This can be achieved through discussion and writing prompts that probe the basis for the beliefs.
2. Create prior knowledge that provides students with realistic viewpoints and data about the community issue that is being addressed through service-learning. Prior knowledge can be created through student-conducted interviews, taped commentaries by community members, and research/presentation of relevant statistical data.
3. Ensure that reflections during the service-learning experience probe and challenge pre-existing perceptions and assist in the formation of realistic viewpoints. Carefully constructed writing prompts can be used to help guide and generate introspection.
4. Hold a discussion at the end of the experience to review changes in attitudes and beliefs. The discussion should include topics that focus on changes and the causes of the changes that may have occurred in self-confidence levels.

Study Conclusion

This is the first time this college has coordinated the curriculum of a cohesive block of courses and integrated service-learning. This approach fully integrated the college classroom curriculum with the curriculum established by the community partner and met state curriculum guidelines. The openness of the community partner regarding the implementation of the service-learning was commended.

The fundamental research question was "How does the service-learning experience enhance the learning process in interdisciplinary college level courses?" This question was divided into three sub-questions:

- 1.a) Would service-learning experiences strengthen academic learning?
- 1.b) Would students understand how the concepts learned in the college class apply to public school educational environments?
- 1.c) Would students believe that they had made a significant contribution to the school?

These three questions were correlated to ASLER and state standards.

Although three of the ASLER areas showed a statistically significant change between the pre-and post-survey responses, the three most significant areas were in the areas of

strengthening academic learning, the identification of individual strengths and weaknesses, and the recognition of the benefit of service-learning.

The data related to the college students' perceptions of problems facing schools and their change of attitude toward schools is interesting and relevant. College students form opinions based on life experiences and the influence of family and friends. This may cause unrealistic or myopic views. By involving these students in service-learning experiences, they obtain additional information and form perceptions based on personal experience. These perceptions may be closer to the community realities.

An analysis of survey responses and reflection data from the college students indicated that the service-learning experience did enhance learning to a significant degree. Future study is warranted in determining the disconnect that exists between recognized community needs and college student involvement toward fulfilling these needs. This disconnect may be due to a multitude of factors, including the service-learning background and experiences of the millennial generation (Ross & Boyle, 2007).

This disconnect could be lessened with \$4000 tax credits proposed by President Obama for college students performing 100 hours of service per year. The passage on April 21, 2008, of the Edward M. Kennedy Serve America Act (Kittredge, 2009) invests \$6 billion into service-learning programs from 2010 through 2014 by offering college students an education reward of \$5350 (equal to the maximum Pell grant award). These federal efforts could help eliminate the identified disconnect that occurred in this study.

Service-learning benefits the individual, the community, and the nation. To quote President Obama, "Loving your country shouldn't just mean watching fireworks on the 4th of July. Loving your country must mean accepting responsibility to do your part to change it. If you do, your life will be richer, our country will be stronger."

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